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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kentaro Tanikawa

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EXAMINER

DAZENSKI, MARC A

ART UNIT

PAPER NUMBER

2621

NOTIFICATION DATE

DELIVERY MODE

04/15/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/560,854	Applicant(s) TANIKAWA ET AL.	
	Examiner MARC DAZENSKI	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 15-27 is/are rejected.
- 7) ☒ Claim(s) 7-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12-15-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 27 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 27 defines a video processing program embodying functional descriptive material. However, the claim does not define a computer-readable medium or computer-readable memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the

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medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program.

Note:

A “signal” (or equivalent) embodying functional descriptive material is neither a process nor a product (i.e., a tangible “thing”) and therefore does not fall within one of the four statutory classes of § 101. Rather, “signal” is a form of energy, in the absence of any physical structure or tangible material.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 20-22, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura (US Patent 7,424,204), hereinafter referred to as Nakamura.

Regarding **claim 1**, Nakamura discloses a video information summarizing apparatus and method for generating digest information, and video information summarizing program for generating digest information. Further, Nakamura discloses a video information summarizing apparatus which classifies content information into a plurality of content sections and which decides partial video information to be extracted on the basis of the classified content section, which reads on the claimed, "a video

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processing apparatus for specifying frames to be start frames of a plurality of viewing segments when segmenting a content," as disclosed at column 2, lines 11-24 and exhibited in figure 1; the apparatus comprising:

audio feature amount extraction unit (102) for obtaining audio feature amount on the basis of the preset parameter as well as genre information obtaining unit (103) for obtaining genre information and storage unit (104) for storing audio/video information, the summarizing apparatus (100) utilizing this information to extract digest segments, which reads on the claimed, "a specifying information memory storing pieces of specifying information each showing a feature of frames to be specified as start frames and each corresponding to a different type of content; a content obtaining unit operable to obtain a content; an information obtaining unit operable to obtain type information showing the type of the obtained content; an extracting unit operable to extract from the specifying information memory a piece of specifying information corresponding to the type shown by the obtained type information; and a specifying unit operable to specify start frames present in the content, in accordance with the extracted piece of specifying information," as disclosed at column 16, lines 48-61; column 17, lines 9-41; column 18, lines 22-25; and exhibited in figure 1.

Regarding **claim 20**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 21**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 22**, Nakamura discloses everything claimed as applied above (see claim 1). Further, Nakamura discloses the additional information may be included in the digital audio/video information that is in the storage unit (104), or the genre information may be obtained through a communications line such as the internet, which reads on the claimed, “an updating unit operable to obtain a new version of specifying information corresponding to a specific type of content, and record the new version of specifying information to the specifying information memory,” as disclosed at column 17, lines 43-46; and column 18, lines 20-25 and 40-44.

Regarding **claim 25**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 26**, the examiner maintains the claim is merely the corresponding method to the apparatus of claim 25 and is therefore rejected in view of the explanation set forth in regards to claim 25 above.

Regarding **claim 27**, the examiner maintains the claim is merely the corresponding program of the method of claim 26 and is therefore rejected in view of the explanation set forth in regards to claim 26 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 16-18, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 7,424,204), hereinafter referred to as Nakamura, in view of Sull et al (US Patent 7,548,565), hereinafter referred to as Sull.

Regarding **claim 2**, Nakamura discloses everything claimed as applied above (see claim 1). However, Nakamura fails to disclose the remaining limitations of the claim. The examiner maintains it was well known to include the missing limitations, as taught by Sull.

In a similar field of endeavor, Sull discloses method and apparatus for fast metadata generation, delivery and access for live broadcast program. Further, Sull discloses key frame list view module (530) which constructs a single representative image, called a “key frame,” which can be selected from any frames ranging over the interval according to a highlight template or any other shot detection means, the timepoints of the highlights marked by the time points of a highlight according to highlight marker (206), which reads on the claimed, “each piece of specifying information further shows a feature of frames to be specified as presentation frames, each of which is to be displayed as a representative still image of a respective viewing segment, and the specifying unit further specifies presentation frames present in the content, in accordance with the extracted piece of specifying information,” as disclosed at column 13, lines 6-26; column 22, lines 36-67; and exhibited in figure 5.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Nakamura to include the

teachings of Sull for the purpose of visually conveying to a user a list of the most important segments of a video presentation.

Regarding **claim 3**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 2). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 2 above.

Regarding **claim 4**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 2). Further, Nakamura discloses an audio feature amount extraction unit (102) which selects an optimum audio section for use in deciding digest segments, which reads on the claimed, "the features shown by the specifying information are detectable through at least one of video analysis, still image analysis, and audio analysis, and the specifying unit specifies the start frames and presentation frames through at least one of video analysis, still image analysis, and audio analysis," as disclosed at column 20, lines 1-26.

Regarding **claim 5**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 4). Further, Nakamura discloses detecting a silent section and a noise section according to genre information, wherein during a news program, since a silent section is taken at the time of switching news contents and the part that follows the "pause" shows the next contents the part will be a feature part of the video information, which reads on the claimed, "a first condition showing a feature of frames to be detected as candidates for presentation frames; an exclusion condition showing a feature of frames to be excluded from candidates for presentation frames; a

second condition showing a feature of frames to be detected as candidates for start frames,” as disclosed at column 19, lines 31-50;

the decision parameter setting unit (106) sets a decision parameter for the extraction on the basis of the inputted genre information, and the control unit (108) selects an optimum audio section for use in deciding digest segments, and then utilizes an optimization of weighing functions to determine importance, which reads on the claimed, “a selection condition showing a relation between a presentation frame and a frame that is to be selected as a start frame, and the specifying unit specifies the presentation frames by detecting frames satisfying the first condition from all frames present in the content and subsequently excluding frames satisfying the exclusion condition from the detected frames, and specifies the start frames by detecting frames satisfying the second condition from all the frames present in the content and subsequently selecting, from the detected frames, frames satisfying the relation shown by the selection condition with respect to the specified presentation frames,” as disclosed at column 20, lines 1-26; column 21, lines 37-51, and exhibited in figures 4-5.

Regarding **claim 6**, the limitations of the claim are rejected in view of the explanation set forth in claim 5 above (wherein since the combination of Nakamura and Sull is capable of discerning between genres and the combination also discloses various automatic indexing operations such as shot detection, key frame extraction, and closed-caption text decoding, and audio frame analysis, the examiner maintains that the system resulting from the combination of the two references covers all permutations of “different features,” “exclusion conditions,” and “first and second conditions”).

Regarding **claim 16**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 2). Further, Nakamura discloses the control unit (108) controls the reproduction unit (107) to perform the summary reproduction on the basis of the decided digest segments, which reads on the claimed, "a playback unit operable to play back the content starting from a start frame specified by the specifying unit," as disclosed at column 28, lines 28-33 and lines 49-55.

Regarding **claim 17**, the combination of Nakamura and Sull discloses everything claimed as applied above. Further, Sull discloses key frame list view module (530) which constructs a single representative image, called a "key frame," which can be selected from any frames ranging over the interval according to a highlight template or any other shot detection means, the timepoints of the highlights marked by the time points of a highlight according to highlight marker (206), which reads on the claimed, "an index storing unit operable to store pairs display times of each start frame and presentation frame specified for a respective viewing segment by the specifying unit; a display unit operable to display a presentation frame specified for each viewing segment by the specifying unit," as disclosed at column 13, lines 6-26; column 22, lines 36-67; and exhibited in figures 5 and 20; and,

video player window (910) used to play back ordinary or highlight video segments on demand, the viewer being able to play back the corresponding video segments of the key frames, which reads on the claimed, "a user-selection unit operable to select at least one of the presentation frames displayed, in accordance with a user selection, wherein the playback unit plays back the content starting from a start frame of

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a viewing segment to which the user-selected presentation frame belongs,” as disclosed at column 22, lines 36-43 and column 28, lines 23-27.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Nakamura to include the teaching of Sull for the purpose of allowing a user greater flexibility in reproducing a selected video segment.

Regarding **claim 18**, the limitations of the claim are rejected in view of the explanation set forth in claim 17 above.

Regarding **claim 23**, Nakamura discloses everything claimed as applied above (see claim 22). However, Nakamura fails to disclose the remaining limitations of the claim. The examiner maintains it was well known to include the missing limitations, as taught by Sull.

In a similar field of endeavor, In a similar field of endeavor, Sull discloses method and apparatus for fast metadata generation, delivery and access for live broadcast program. Further, Sull discloses template manager module (418) loads appropriate highlight templates and also provides the operator with an “update a highlight theme” command, which reads on the claimed, “the updating unit obtains the new version of specifying information when connected via a communication network to a provider apparatus for providing specifying information, and judging that the new version of specifying information is available, and the new version of specifying information is recorded to the specifying information memory by updating a piece of specifying information stored therein corresponding to the specific type to the new version,” as

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disclosed at column 13, line 56 through column 14, line 19 as well as column 20, lines 5-24.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Nakamura to include template manager module (418) loads appropriate highlight templates and also provides the operator with an "update a highlight theme" command, as taught by Sull, for the purpose of ensuring a user's video indexing means works correctly in the event of newly developing situations such as an overrun of a sporting event or change in programming schedule.

Regarding **claim 24**, the limitations of the claim are rejected in view of the explanation set forth in claim 23 above.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 7,424,204), hereinafter referred to as Nakamura, in view of Sull et al (US Patent 7,548,565), hereinafter referred to as Sull, in view of McGee et al (US Patent 6,496,228), hereinafter referred to as McGee.

Regarding **claim 15**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 4). However, the combination fails to disclose the remaining limitations of the claim. The examiner maintains it was well known to include the missing limitations, as taught by McGee.

In a similar field of endeavor, McGee discloses a significant scene detection and frame filtering for a visual indexing system using dynamic thresholds. Further, McGee discloses comparing two frames of video and determining whether the differences

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between the frames are above or below a certain threshold, the threshold being dependent on the category of the video, as well as undergoing a significant scene detection where two consecutive frames are compared, the keyframe filtering process being able to exclude commercials from the keyframes, which reads on the claimed, “wherein when operating in accordance with a piece of specifying information corresponding to a predetermined type of content, the specifying unit (i) detects from all the frames present in the content, CM-start frames each of which is a first frame of a series of frames which constitute a commercial message, and transition frames each of which is a first frame of a series of frames of similar images, (ii) specifies each CM-start frame as a start frame, and (iii) specifies as a presentation frame, for each start frame, a closest subsequent transition frame to the start frame,” as disclosed at column 2, lines 7-15; column 5, lines 1-13; and column 14 line 49 through column 15 line 7.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Nakamura and Sull to include the teachings of McGee for the purpose of eliminating commercial messages from a saved video presentation summary or digest.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 7,424,204), hereinafter referred to as Nakamura, in view of Sull et al (US Patent 7,548,565), hereinafter referred to as Sull, in view of Wilf et al (US Patent 7,184,100), hereinafter referred to as Wilf.

Regarding **claim 19**, the combination of Nakamura and Sull discloses everything claimed as applied above (see claim 17). However, the combination fails to disclose the

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remaining limitations of the claim. The examiner maintains that it was well known to include the missing limitations, as taught by Wilf.

In a similar field of endeavor, Wilf discloses a method of selecting key-frames from a video sequence. Further, Wilf discloses selecting key frames from a video sequence by masking overlaid frames and testing for redundancy among the remaining frames, which reads on the claimed, "the user-selection unit stores the selected presentation frame as a reference image into the specifying information memory, and the specifying unit specifies the presentation frames by detecting frames which are similar to the reference image with respect to a location of a region in which a caption appears," as disclosed at column 3, line 59 through column 4, line 16.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Nakamura and Sull to include selecting key frames from a video sequence by masking overlaid frames and testing for redundancy among the remaining frames, as taught by Wilf, for the purpose of reducing storage requirements by selecting only the best key-frames.

Allowable Subject Matter

Claims 7-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, the claims contain the limitations "detects...small caption frames in each of which a caption of a size smaller than a threshold appears in a region other than the predetermined region...(ii)specifies as a

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presentation each frame remaining after removing the small-caption frames...from the large-caption start frames..."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571)270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2621

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/MARC DAZENSKI/
Examiner, Art Unit 2621